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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,503	10/15/2003	Hitoshi Sakamoto	243863US3DIV	4590
22850	7590	05/26/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BUEKER, RICHARD R	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,503

Applicant(s)

SAKAMOTO ET AL.

Examiner

Richard Bueker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,5,7,12,13,20,24-28 and 33-38 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,7,12,13,24-28 and 33-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Claverie (5,091,209) taken in view of Inoue (JP 60-116776), Arena-Foster (6,440,494) and Bhandari (6,001,172), and taken in further view of Brors (4,796,562) and Foster (5,273,588). Claverie (fig. 1) discloses an apparatus for formation of a metal film comprising a precursor feeding means for bringing a chlorine containing raw material gas into contact with a hot metallic element to produce a precursor within a chamber housing a substrate to be coated, the precursor comprising the metallic component of the hot metallic element and the chlorine contained in the raw material gas; and a reducing gas heating means (filament 14 of fig. 1) for heating a hydrogen containing reducing gas to a high temperature and thereby producing an atomic reducing gas within the chamber between the substrate and the precursor feeding means. In Claverie's apparatus, the hot metallic element is a metal tube (element 22 of fig. 1), and Claverie does not discuss the use of a metallic element in the form of a filament. Inoue (see fig. 2, element 11), Arena-Foster (fig. 4, element 64) and Bhandari (see paragraph bridging cols. 2 and 3 and also col. 3, lines 14-17) all disclose vapor sources for CVD apparatus of a type analogous to that of Claverie, and they all teach that a hot metallic source element for forming the precursor gas can be in the form of a filament. It would have been obvious to one skilled in the art to modify the apparatus of Claverie by substituting a filament-type hot metallic element for the hot metal tube of Claverie, because Inoue, Arena-Foster and Bhandari make clear that a metal filament is an alternate equivalent form of a metal source that works well for Claverie's intended purpose, which is to successfully provide reactive precursor gas to a CVD reactor.

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Claverie also does not discuss the use of chamber heating means for heating an inner wall of the chamber to a predetermined temperature as recited in claim 20. Brors (see col. 8, lines 19-37, for example) and Foster (see col. 9, lines 15-39, for example) both teach that it is desirable to provide wall heating means in a "cold wall" type CVD chamber. Foster (col. 9, lines 15-39) explains that in a cold wall reactor, the heater that is provided to heat a substrate to the necessary CVD reaction temperature is a heater that does not heat the chamber walls to a high temperature. From this description, one skilled in the art would have recognized that Claverie's CVD chamber was a cold wall type chamber, because his heater 15 is of the type that heats the substrate and not the wall. It would have been obvious to one skilled in the art to provide the cold wall CVD chamber of Claverie with a wall heater to prevent the precursor from condensing on the heated inner wall, because Foster and Brors (col. 8, lines 29-37) teach that it is desirable to prevent condensation of precursor gas on the inner wall of a CVD chamber by heating the walls of the chamber.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee, Powell and Keenan are cited of interest.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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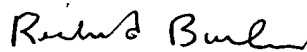
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Richard Bueker
Primary Examiner
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